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The Soviet Strategic Air Threat to the United Kingdom

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Although the title of my Talk today is the strategic air threat to the United Kingdom, I thought it would be more useful to you, as Scientific Advisers to the Home Office, to talk about the strategic air threat to the West as a whole. The threat to the United Kingdom is all too easy to understand. It is, however, the threat to the West, as a whole, which determines the likelihood of war.

The Russian development of weapons since World War II falls into three natural periods. It must be remembered that, in general, Russia fought only land battles in World War II. She did not fight an air war or a scientific war, and therefore she found herself at a grievious disadvantage at the end. For the first five years of the post-war period she devoted herself to copying Western equipments, particularly those for air defence, i.e. radars and fighter aircraft. She also began building a large submarine force, but as these submarines were all of short endurance, this arm was clearly intended to play a defensive role against aircraft carriers rather than to attack our lines of sea communication. The whole accent during this period was on defence, and the only offensive items tackled in this period were the copying of the American B.29 Super Fortress, which became the Russian Medium Bomber TU4, and the outstandingly high class nuclear weapon programme which resulted in the first Soviet nuclear explosion in the second half of 1949.

The next five years may be classified as the "belt and braces" period. Russia continued to produce new marks of orthodox equipment whilst initiating research programmes on novel weapons. During this period she began research and development on guided weapons of all types, and began her work on nuclear submarines. Great emphasis was put on surface-to-air guided weapons, and this again emphasises her defensive outlook. Her first heavy bombers - the Bear and the Bison - appeared during this period. This was the first indication of a strategic offensive capability.

During the next six years she has been phasing out the older weapons in favour of new ones. The first ICBM was fired in the middle of 1957, and the first space vehicle was launched two months afterwards. Obviously, the Russians were very impressed by the political impact of the first sputnik and they subordinated the I.C.B.M. programme to that of sputniks and lunar probes for the next year. In the meantime, the production of heavy bombers continued at a very slow pace, and this, combined with the easy progress of the I.C.B.M., indicated that the Russians were in no hurry to develop a strategic offensive capability. Another most interesting development during this phase has been the missile submarine programme, and the Russians are devoting very great efforts to this weapon system.

The present Soviet air order of battle amounts to about 200 heavy bombers and about 2,000 light medium bombers. Taking the likely attrition rate into account, the threat that this presents to America is very small whilst the threat presented to the United Kingdom and NATO installations in Europe is exceedingly great. It is interesting to note that the number of Soviet day and all-weather fighters is about 8,000 which again emphasises her defensive outlook.

The missile threat has much the same character. The number of I.C.B.M. launchers available is probably less than 20, and there is no certainty that the Russians have any operational missiles at all. The number of intermediate range

and medium range ballistic missile launchers probably amounts to about 300. Again, this poses a minor threat to the United States and a major threat to the United Kingdom and the NATO installations in Europe.

Bearing in mind that both sides almost certainly have an adequacy of fissile material, what does this all add up to? It probably means that the United States has a nuclear advantage of about 5 to 1. The quality of her deterrent is much higher, and there is much greater diversity. In terms of operations, it means that a Soviet first strike does not make sense, but an American first strike does. It means that Soviet strategy is:-

(a) Deterrence of the United States against cities, and

(b) Deterrence of Europe against everything.

On the assumption that the Soviets intend to continue their programme of I.C.B.M. production, they will certainly be able to have several hundreds of them in, say, five years. But it is far from certain that she intends to do this and, in view of the efforts which she is putting into her missile submarine programme, it may well be that, as with the heavy bombers, the number of land-based I.C.B.M's may remain small, and her major strategic missile threat may come from the se

During the discussion which followed, Mr. Leader-Williams said that the figures given by Mr. Young for the USSR Order of Battle did not agree with the data produced for the US Congressional Hearings. Mr. Young stated that the figures he had presented were almost certainly more recent than those quoted at the Congressional Hearings. The US now agreed with JIB's assessment. Sir Charles Ellis asked how US and USSR I.C.B.M's compared with regard to accuracy at comparable ranges. Mr. Young said that they had insufficient data on USSR weapons to make a valid comparison. Whilst the fall of missiles had been observed, one could not be sure of the aiming point. From the small amount of evidence available it appeared that the C.E.P. at operational ranges is of the order of 1 to 1½ miles. Mr. Western asked where the 57 MT weapon fitted into the picture. Mr. Young said that we were not at all clear about this. It was delivered by the Bear and it was possible that the Russians had not yet developed a missile large enough to deliver it. It could possibly have been developed for Mr. Kruschev's Global Rocket. Its use in an anti-missile missile appears unlikely. Mr. Western asked if the Russians could deliver it to targets in the U.S.A. Mr. Young said that this was not possible with the Bear unless it could be refuelled several times en route. Mr. Garrard asked whether in view of their age we ought to disregard the TU-4's. Mr. Young replied that the TU-4 is probably obsolete and is being replaced by Beagle. Dr. Ollis asked how the attrition rates vary with the different methods of delivery. Mr. Young said that the US Air Defence would take a heavy toll of the Bear and Bison. The picture might change when the supersonic bomber came into service. The attrition rate by the UK Air Defence might well be lower. With regard to the ICBM, the USSR has a huge programme of Anti-ballistic Missile defence, but there are as yet no signs that missile sites have been constructed. The US is developing Nike-Zeus, but whether this will ever get into service is another matter. Its cost will be astronomical even by today's standards. In UK we consider the decoy problem to be insoluble. Now that the weight of megaton warheads can be much reduced, there is room in the missile for more decoy equipment. Warheads can be destroyed if the defence knows the design. Conversely, if the defence is known a warhead could be designed to outwit it. The problem is thus very complex and a successful solution is likely to prove very expensive.